WHAT IS CLAIMED IS:

1. A deposition method comprising:

a liquid film forming step of dropping a liquid medicine, which contains a solvent and solid matter added to the solvent, to a substrate to be processed from a dropping nozzle such that a fixed amount of liquid medicine diffuses on the substrate, and moving the dropping nozzle and the substrate relative to each other with the dropped liquid medicine remaining on the substrate, thereby to form a liquid film extending from a dropping starting portion of the substrate to a dropping ending portion thereof; and

a step of removing the solvent from the liquid film to form a coating film,

wherein, in the liquid film forming step, the substrate is heated or cooled to correct a temperature distribution of the liquid film caused by heat of evaporation due to volatilization of the solvent contained in the liquid film.

2. The deposition method according to claim 1, wherein the substrate is heated or cooled such that a temperature of the dropping starting portion of the substrate becomes higher than that of the dropping ending portion thereof.

3. The deposition method according to claim 1, wherein the substrate is heated or cooled such that an outer region of the substrate monotonously decreases in

temperature from the dropping starting portion to the dropping ending portion and an inner region thereof is set at an almost fixed temperature, the almost fixed temperature being lower than a temperature of the dropping starting portion and higher than that of the dropping ending portion.

4. The deposition method according to claim 1, wherein the substrate is heated or cooled so as to eliminate a temperature gradient of a region between the dropping starting portion and the dropping starting portion.

5. The deposition method according to claim 1, wherein the substrate is heated or cooled such that a temperature gradient of the dropping ending portion of the substrate becomes greater than that of the dropping starting portion thereof.

6. The deposition method according to claim 1, wherein the substrate is heated or cooled such that a temperature of both end portions of the substrate becomes lower than that of a central portion thereof.

7. The deposition method according to claim 1, wherein the dropping starting portion corresponds to a central portion of the substrate and the dropping ending portion corresponds to end portions of the substrate; and

the liquid film forming step comprises a step of dropping a liquid medicine from the central portion of

the substrate to one of the end portions thereof and a step of dropping a liquid medicine from the central portion to other of the end portions.

8. The deposition method according to claim 1, wherein the liquid medicine is one of a resist film agent, an antireflective film agent, a low dielectric film agent, and a ferroelectric film agent.

9. A deposition method comprising:

a liquid film forming step of dropping a liquid medicine, which contains a solvent and solid matter added to the solvent, to a substrate to be processed from a dropping nozzle such that a fixed amount of liquid medicine diffuses on the substrate, and moving the dropping nozzle and the substrate relative to each other, with the dropped liquid medicine remaining on the substrate, to drop the liquid medicine from a dropping starting portion of the substrate to a dropping ending portion thereof, thereby to form a liquid film on the substrate; and

a step of removing the solvent from the liquid film to form a coating film whose surface is flat,

wherein, in the coating film forming step, the substrate is heated or cooled to correct a temperature distribution of the liquid film caused by heat of evaporation due to volatilization of the solvent contained in the liquid film.

10. The deposition method according to claim 9,

wherein the substrate is heated or cooled such that a temperature of the dropping starting portion of the substrate becomes higher than that of the dropping ending portion thereof.

11. The deposition method according to claim 9, wherein the substrate is heated or cooled such that an outer region of the substrate monotonously decreases in temperature from the dropping starting portion to the dropping ending portion and an inner region thereof is set at an almost fixed temperature, the almost fixed temperature being lower than a temperature of the dropping starting portion and higher than that of the dropping ending portion.

12. The deposition method according to claim 9, wherein the substrate is heated or cooled so as to eliminate a temperature gradient of a region between the dropping starting portion and the dropping starting portion.

13. The deposition method according to claim 9, wherein the substrate is heated or cooled such that a temperature gradient of the dropping ending portion of the substrate becomes greater than that of the dropping starting portion thereof.

14. The deposition method according to claim 9, wherein the substrate is heated or cooled such that a temperature of both end portions of the substrate becomes lower than that of a central portion thereof.

15. The deposition method according to claim 9, wherein the dropping starting portion corresponds to a central portion of the substrate and the dropping ending portion corresponds to end portions of the substrate; and

the liquid film forming step comprises a step of dropping a liquid medicine from the central portion of the substrate to one of the end portions thereof and a step of dropping a liquid medicine from the central portion to other of the end portions.

16. The deposition method according to claim 9, wherein the liquid medicine is one of a resist film agent, an antireflective film agent, a low dielectric agent, and a ferroelectric film agent.

17. A deposition apparatus comprising:

a dropping nozzle for supplying a liquid medicine to a substrate to be processed;

a driving section for moving the substrate and the dropping nozzle relative to each other; and

a temperature controller on which the substrate is mounted, for providing a temperature distribution from a dropping starting portion of the substrate to a dropping ending portion thereof.

18. The deposition apparatus according to claim 17, wherein the temperature controller includes:

a heat absorbing section for absorbing heat and a heat generating section for generating heat, each of

the heat absorbing section and the heat generating section being constituted of a plurality of plates whose temperatures are controlled independently; and

a thermal diffusion plate provided on the heat absorbing section and the heat generating section.

19. The deposition apparatus according to claim 17, wherein the temperature controller includes:

a plurality of outer plates for independently controlling temperatures of a plurality of areas of an outer region of the substrate;

a central plate for controlling a temperature of a central region of the substrate;

a thermal diffusion plate provided on the outer plates and the central plate; and

a gap adjustment table which is provided on the thermal diffusion plate and on which the substrate is mounted to form a gap between the thermal diffusion plate and the substrate.

20. The deposition apparatus according to claim 17, wherein the temperature controller includes:

a plurality of outer plates for independently controlling temperatures of a plurality of areas of an outer region of the substrate;

a thermal diffusion plate provided on the outer plates and a central plate; and

a gap adjustment table which is provided on the thermal diffusion plate and on which the substrate is

mounted to form a gap between the thermal diffusion plate and the substrate.

21. A pressure-reduction drying apparatus comprising:

a temperature controller on which a substrate to be processed is mounted, for providing a temperature distribution from a liquid medicine dropping starting portion of the substrate to a liquid medicine dropping ending portion thereof; and

a pressure-reducing chamber holding the substrate and the temperature controller and connected to a vacuum pump.

22. The pressure-reduction drying apparatus according to claim 21, wherein the temperature controller includes:

a heat absorbing section for absorbing heat and a heat generating section for generating heat, each of the heat absorbing section and the heat generating section being constituted of a plurality of plates whose temperatures are controlled independently;

a thermal diffusion plate provided on the heat absorbing section and the heat generating section; and

a gap adjustment table which is provided on the thermal diffusion plate and on which the substrate is mounted to form a gap between the thermal diffusion plate and the substrate.

23. The deposition apparatus according to

claim 21, wherein the temperature controller includes:

a plurality of outer plates for independently controlling temperatures of a plurality of areas of an outer region of the substrate;

a central plate for controlling a temperature of a central region of the substrate;

a thermal diffusion plate provided on the outer plates and the central plate; and

a gap adjustment table which is provided on the thermal diffusion plate and on which the substrate is mounted to form a gap between the thermal diffusion plate and the substrate.

24. The deposition apparatus according to claim 21, wherein the temperature controller includes:

a plurality of outer plates for independently controlling temperatures of a plurality of areas of an outer region of the substrate;

a thermal diffusion plate provided on the outer plates and a central plate; and

a gap adjustment table which is provided on the thermal diffusion plate and on which the substrate is mounted to form a gap between the thermal diffusion plate and the substrate.